



The High Plains Drifter

NATIONAL WEATHER SERVICE
NORTH PLATTE, NE

**KEEP
AHEAD OF
THE STORM**
by listening
to NOAA
Weather
Radio,
commercial



radio, television or the
internet for the latest winter
storm warnings, watches
and advisories.

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Comments and suggestions are always welcome. Your feedback is very important to us!

Blizzards

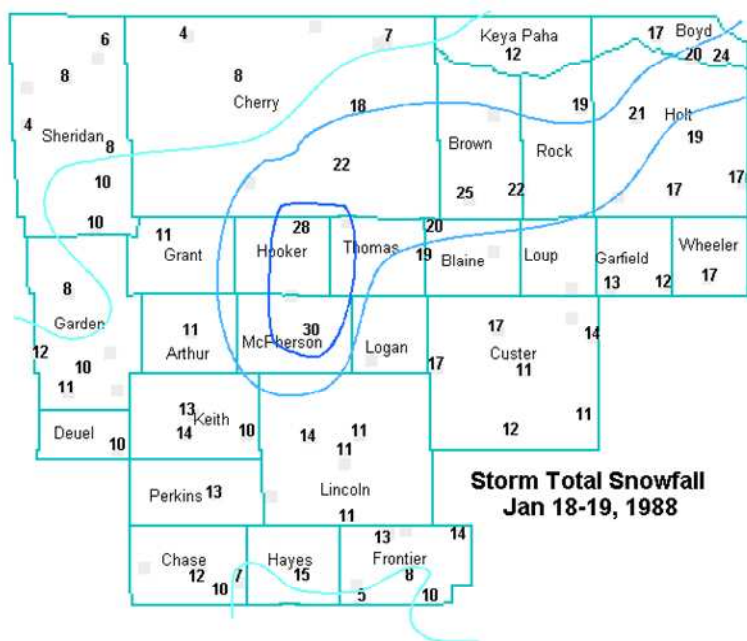
By *Cliff Cole, Meteorologist*

Meteorologists follow winter weather patterns like sports fans follow the World Series, news commentators follow the election, and clothing designers follow the Fall Paris Fashion Show. Meteorologists are curious people who observe and attempt prognosticate the cycles of the atmosphere. And, like the cycles of emotion, happy, sad, angry or mad, meteorologists are most interested in the strongest and most extreme weather events.

This year marks 56 years since the January 3-5th, 1949 blizzard covered the Central Plains with 1 to 3 feet of snow. Meteorologists wait and wonder when, if, or ever, another storm of this magnitude will cross the Plains. The 1949 blizzard lasted 40 hours and produced wind gusts of 50 to 70 mph, temperatures in the single digits, blinding snow, snow drifts to 30 feet, and a wind chill of -20°F to -40 °F. The conditions were nothing short of life-threatening. Unprotected livestock died by the thousands.

**56 YEARS SINCE
THE JANUARY 3-
5TH, 1949 BLIZZARD**

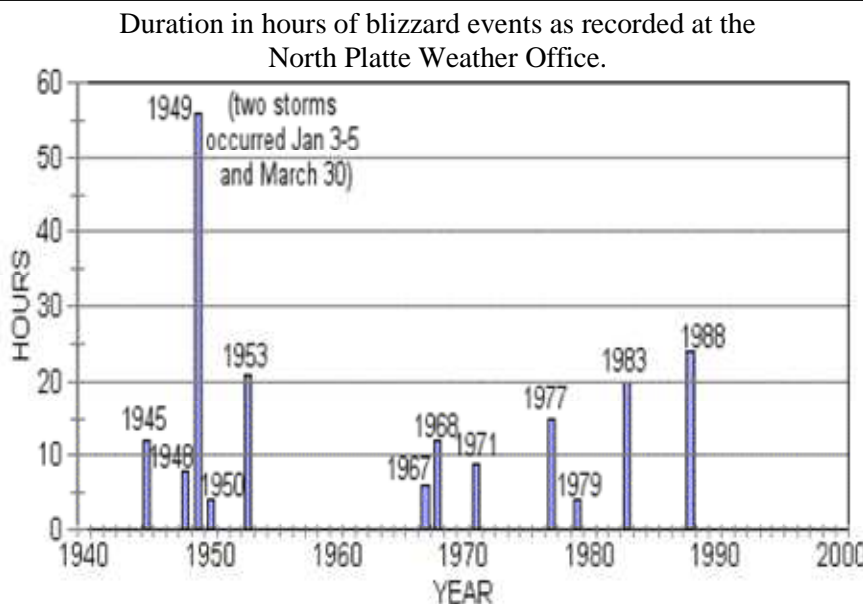
The last major blizzard across Western and North Central Nebraska occurred in January 18-19, 1988; 17 years ago. Ronald Sowders, the Cooperative Observer in Tryon during the blizzard, measured 30 inches of snowfall. 10 foot snow drifts closed rural roads for up to 5 days.



BLIZZARDS CONTINUED

Careful analysis of weather records, 1945 to present, suggest years can pass between these extreme winter weather events. In fact, the atmosphere appears to behave in cycles. For example, seven blizzard events occurred between 1945 and 1953. Then atmosphere fell silent until 1967 and then seven more blizzard events occurred until 1988. Since 1988, the atmosphere has been quiet and meteorologists wonder: will this be year? Will a big blizzard form? What has to happen? When?

Only time will tell if 2005 will produce a major blizzard across our region. It has been 17 years since the last major storm.



This graph shows the number of hours of impact of a blizzard. Note that some blizzards in the past have lasted over 10 hours. It is very important to have a winter safety kit for your home and vehicle.

IV- ROCS REPLACES ROSA PHONES

The National Weather Service is phasing out the aging Regional Observation System Automation (ROSA) system for phoning in observations. The hardware used for the ROSA is old and no longer available. There is a new system called the Interactive Voice - Remote Observation Collection System (or IV-ROCS) that has begun to replace the ROSA reporting system. Those Cooperative observers who phone their observations in have been sent a mailing that outlines a new data acquisition system.. The new system is voice activated and can be used with any touch tone phone. **You are no longer required to pre-program the codes and data on your speed-dial phone!** For those who currently use the ROSA system, the phone numbers will be phased out such that you will have to use the new IV-ROCS system or call the Weather Service with your observations. If you do not currently report your observations daily, but would like to start using IV-ROCS (or WxCoder) contact Mark Byrd at the Weather Service in North Platte for more information.



QUIZ CORNER

What is a radiosonde?

- A) a thermometer that gives readings in Fahrenheit and Centigrade simultaneously
- B) a box filled with instruments that takes measurements from the air
- C) an instrument that is attached to ocean buoys that records sea surface temperatures
- D) a parachute

The correct answer is B. A radiosonde is a box equipped with weather instruments and a radio transmitter that takes measurements from the air.

What is a cold front?

- A) a warm and cold air boundary with warm air advancing
- B) a warm and cold air boundary with cold air advancing
- C) a warm and cold air boundary with neither cold nor warm air advancing
- D) an area of high pressure

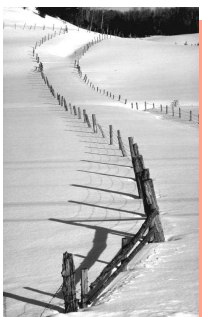
The correct answer is B. A cold front is the boundary between a warm air mass and a cold air mass. The cold air is advancing and replacing the warmer air mass. A cold front is represented on a weather map by a blue line with triangles.

EFFICIENT SNOW MAKER – THUNDERSNOW

By Teresa Keck – Meteorologist

Thunderstorms are a common feature on the plains, but have you heard of thundersnow? Thundersnow is a thunderstorm that can generate lightning, strong winds, and hail, but has snow reaching the ground instead of rain. The term thundersnow is gaining in interest as large cities have been brought to a stand-still after significant snowfalls have occurred. In 2003 alone, a \$460,000 grant was awarded to a University of Missouri researcher to look into the occurrence of thundersnow.

Research available to date identifies thundersnow as a rare event. Thundersnow can and does occur over Western and North Central Nebraska, with a peak occurrence during March. Yet, the scarcity of observation sites and available technology limits recording such events. At the National Weather Service and through partnerships, computer model data, lightning detection systems, and radar continue to provide new insights in recognizing potential thundersnow events.



When thundersnow storms do occur, there can be a rapid reduction in visibility, and localized heavy snowfall rates can exceed two inches per hour. For this efficient snow maker to occur, surface temperatures need to be at or below 32 degrees Fahrenheit, an abundance of moisture must be present, and a strong low pressure system moving across the area. Thundersnow storms can occur as warm air is lifted over cold, dense arctic air, with focus placed near the storm systems warm front.

YOU CAN HELP MAKE A DIFFERENCE

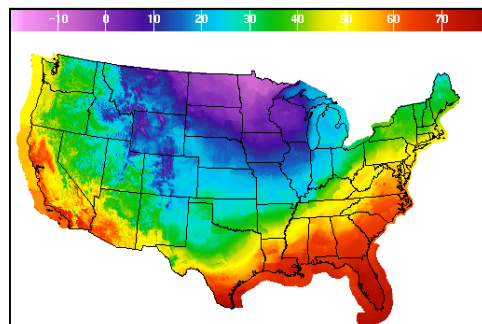
This winter we will be looking for cases when prolific snow makers occur. **When snow is forecasted and you see lightning, or hear thunder, give the office a call and be a part of the ongoing research in thundersnow.** The snowfall rates and accumulation you provide can help make a difference.

THREE DIGITAL GRIDDED ELEMENTS BECOME OFFICIAL

An historic announcement was made by Brig. Gen. D.L. Johnson, USAF (Ret.), NWS Director, on September 16, 2004, when he declared three elements of the National Digital Forecast Database (NDFD) would become official on December 1, 2004.

The gridded elements which became official NDFD products in December include: Maximum Temperature, Minimum Temperature, and Probability of Precipitation (12 hour). The nine experimental elements remaining are: Hourly Temperature, Dew Point, Weather, Wind Speed, Wind Direction, Significant Wave Height, Sky Cover, Snow Amount, and Quantitative Precipitation Forecast. More experimental are expected to become official March 15, 2005. The gridded elements are made available to all customers and partners from the public, private and academic sectors. Those customers and partners may use this data to create a wide range of text, graphic, gridded and image products of their own.

More details on the NDFD are available at <http://weather.gov/ndfd/>. Visit the North Platte National Weather Service's webpage for your digital grid point forecast.



National view of the high temperature forecast for 12-22-2004 at 7pm issued on 12-22-2004 at 11:12 am.

KIDS HEALTH AND SAFETY SATURDAY

Kid's Health and Safety Saturday was held September 18, 2004 at the Platte River Mall in North Platte. The event was sponsored by Great Plains Regional Medical Center and the National Weather Service was one of the many participating booths. Kids of all ages stopped to talk with meteorologist about weather and weather safety. With the approaching winter season, the main topic of discussion was winter safety. Being prepared for winter weather includes having a safety kit in your vehicle while traveling and having a plan at home when winter weather strikes. Lightning safety was also a topic and children enjoyed playing with the lightning ball which demonstrated lightning in a safe way. Other topics included flash flooding and driving into dust storms.



CLOUDSCAPE STAMPS DEDICATED

Chris Buttler and Deb Blondin were at the North Platte Post Office on October 5th for the promotion of the new cloudscape stamps. On October 7th, Deb Blondin and John Stoppkotte were at the Valentine Post Office.

October was National Stamp Collecting Month. This year's theme, "*Reach for the Sky and Collect Stamps!*" was an alliance with The Weather Channel, American Meteorological Society and the National Weather Service to educate stamp collectors about atmospheric sciences.



More about the stamps can be found at
www.usps.com/communications/news/stamps/2004/sr04_062.htm

OBSERVING PROGRAM LEADER

A new position has been created throughout the National Weather Service called the Observing Program Leader (OPL). This person will be responsible for the oversight of the coop and other data programs in the office which are critical to operations. The addition of this position is to improve and expand the coop program. A selection was made at the North Platte office and Mark Byrd is our new Observing Program Leader. Congratulations Mark.

SKYWARN RECOGNITION DAY



The National Weather Service (NWS), in conjunction with the National Radio Relay League, sponsored the 6th annual Skywarn Recognition Day December 3rd and 4th to celebrate the contributions volunteer ham radio operators make for the National Weather Service. Each year the NWS depends on the ham radio operators to attend training and give reports during severe weather.



Several ham radio operators came out to the NWS office in North Platte to participate in the event. Other ham radio operators from across the United States were contacted. Ham radio operators and NWS staff had a great time with the event and look forward to next year! For more information about amateur radio networks visit:

http://www.crh.noaa.gov/lbf/skywarn/amateur_radio.php



ERICSON 6 WNW

By Mark Bryd – Observing Program Leader

The Cooperative Station located 6 miles west-north-west of the town of Ericson, in Garfield County, was established in June 1911 and was moved a short distance in May of 1956 to its present location. Marquis Bodyfield took over from his father, J.A. Bodyfield as the observer at that time and served until August of 1975, when Victor and Julianna Bodyfield became the observers. This makes three generations of high quality weather data, a continuing family tradition of service.

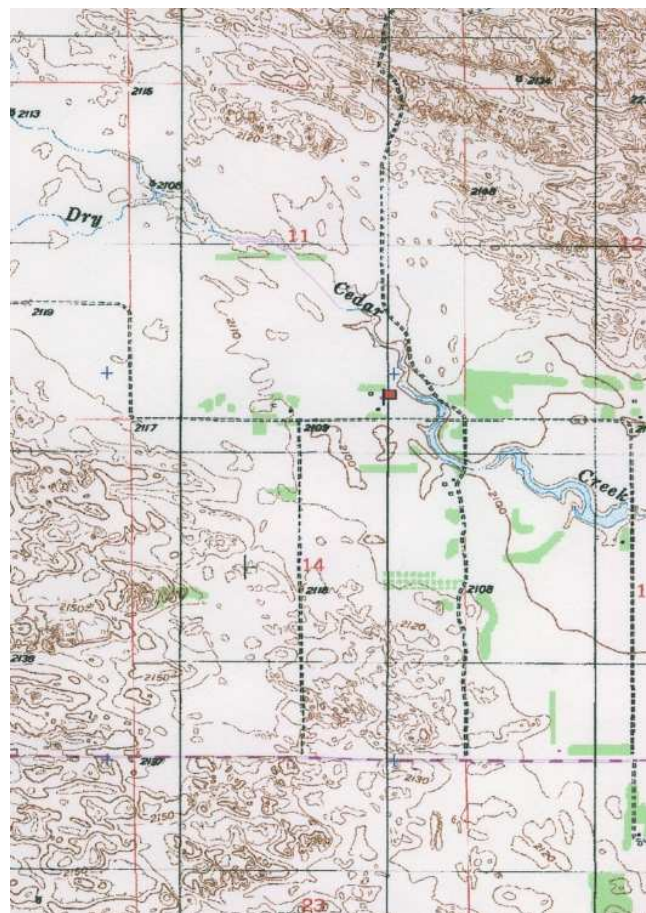
Victor and Julianna received the John Campanius Holm Award in October of 2000 for 25 years of dedicated service to the National Weather Service and the United States of America. This is one of the most prestigious awards that can be presented to a cooperative observer.

Victor and Julianna's dedication to the Cooperative Observer program has benefited the National Weather Service as well as other Federal, State and Local agencies in providing a high quality database of weather observations which include daily temperature and precipitation readings.

With nearly 100 years of service, the Bodyfields are in a somewhat elite group, with only a few stations in Nebraska exceeding the longevity of the cooperative station at Ericson.

Situated in the rolling Sand Hills of Nebraska, the weather data provided by the Bodyfields is critical to those tasked with determining the condition of the watershed and overall climactic trends. These observations are also used as "ground truth" by National Weather Service forecasters and hydrologists, giving them a feel about how accurate their forecasts are.

The Topography in the area of Ericson 6WNW



All Time Records

High	102 on July 14, 1995
Low	-31 on February 2, 1996
Precipitation	4.75 inches on March 19, 1987
Snow	18.5 inches on February 19, 1984

Monthly and Yearly Averages (1971-2000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	32	38	48	60	71	81	87	84	76	64	46	35
Low	8	14	23	33	45	55	60	59	48	35	22	12
Precip	0.53	0.63	1.74	2.47	3.59	3.56	3.79	2.75	2.10	1.78	1.43	0.66
	High		Low		Mean		Precip		Snow			
30 Year Avg	60.2		34.5		47.3		25.03		32.6			

COOPERATIVE WEATHER OBSERVER AWARDS



On Tuesday, September 28th, **Larry and Janice Halsted of Lynch, Nebraska** were honored by the National Weather Service for a **10 Year Length of Service Award** with the Cooperative Observation Program. Christina Hannon (MIT) from the North Platte Weather Service Office, presented the award to Mr. and Mrs. Halsted. The Halsted's have provided temperature and precipitation data to the National Weather Service since October 1, 1994.

REPORTING ON B-91 FORMS

It has come to the attention of our office that a few stations are incorrectly reporting on the B-91 forms. Please review the instructions below to insure the data is being recorded correctly. More instructions on taking and recording observations are found on the WS Form B-91 Book.

RECORDING PRECIPITATION AMOUNTS

Under “24-hour Amounts” enter the total precipitation in inches and hundredths (rain or melted hail, ice pellets or snow) which had accumulated during the 24 hours preceding the time of observation **ENTER THE AMOUNT ON THE DATE OF MEASUREMENT**, even if some or all of it actually fell on the preceding calendar day. Every entry of 0.01” or more must be recorded to two decimal places, taking care to enter the decimal point in its proper place. If no precipitation occurred during the 24-hour observation period, a zero should be entered so there will be no doubt as to whether any precipitation fell. **Don't forget to SUM** the precipitation that fell over the whole month and record the value in the SUM block at the bottom of the “24-hour Amounts” column. If there are any missing observations, fill the box in with an M– don't leave the box blank.

In the past months, several observers had forgotten to fill out certain critical blocks on the B-91. Please make sure that your **official station name** is in the block at the top labeled “STATION”, **your station ID number** is filled in the “STATION INDEX ID” at the bottom on the form and the **supervising office** is WSFO LBF. Also, please remember to **print your name** in the “OBSERVER” block at the bottom of the form. Always send in the original B-91 form and not the carbon copy at the end of the month.

CLIMATOLOGICAL CALENDER

Climatological Data for September, October, and November 2004

prepared by Christina Hannon, Meteorological Intern

Location	Month	Average	Departure	Rain	Departure	Highest	Lowest
North Platte	September	66.1° F	+3.7° F	1.98 inches	+0.66 inches	96° F (9th and 12th)	38° (24th)
	October	51.8° F	+2.1° F	0.97 inches	-0.27 inches	80° F (28th)	22° F (14th)
	November	37.7° F	+3.1° F	1.31 inches	+0.55 inches	78° F (6th)	-9° (30th)
Valentine	September	65.6° F	+4.1° F	3.11 inches	+1.50 inches	98° (12th)	32° (28th)
	October	50.3° F	+2.0° F	0.85 inches	-0.37 inches	79° F (7th)	25° F (31st)
	November	37.4° F	+4.4° F	0.48 inches	-0.24 inches	75° F (6th)	3° (30th)

Normal High/Low Temperatures

Location	Jan 1	Feb 1	Mar 1	Apr 1
North Platte	36/10	40/12	48/19	58/29
Valentine	34/8	36/11	45/18	54/27

December-January-February Outlook (updated Nov 18, 2004)

The outlook calls for the enhanced likelihood of cooler-than-average temperatures in much of the East, Middle Atlantic, and South; warmer-than-average temperatures in Alaska, Hawaii, and the West; wetter-than-average conditions from New Mexico through Texas to Louisiana; and drier-than-average conditions over the Ohio Valley and the Northwest for this winter.

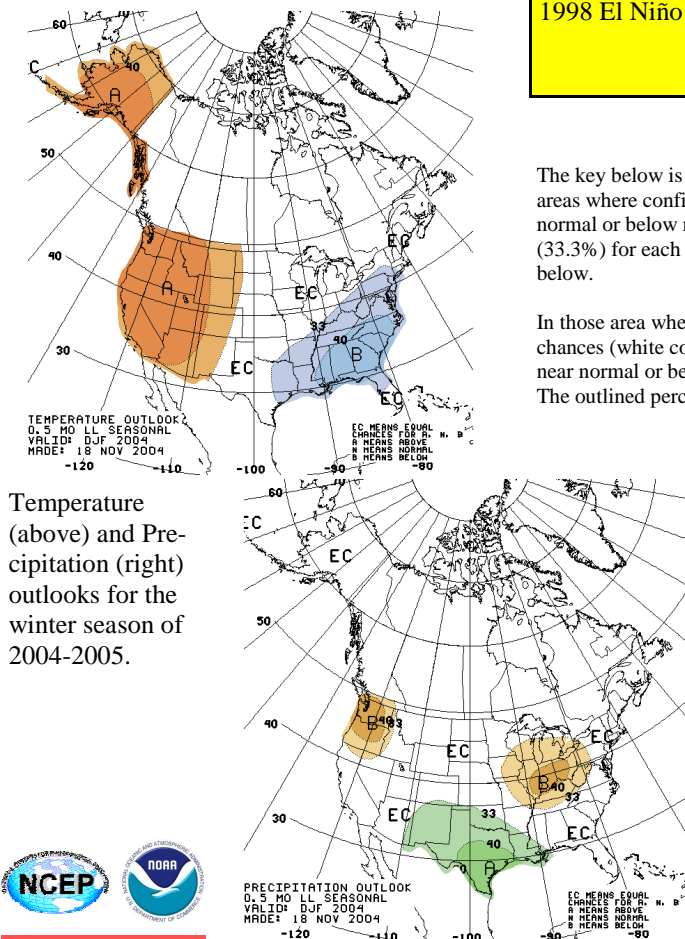
Much of the focus of what lies behind the forecast is the continuation of a weak El Niño event in the tropical Pacific, which NOAA is closely monitoring. This event is expected to continue into early 2005, but remain much weaker than the 1997-1998 El Niño that greatly affected parts of California. (source NWS Focus)

CLIMATE OUTLOOK KEY

The key below is used to interpret each of the color versions of the *Climate Outlook* products. In areas where confidence in predictive skill has been established, the probabilities of the normal, near normal or below normal categories are increased accordingly above the Climatology level of 1/3 (33.3%) for each category. These probabilities are contoured using colors as depicted in the key below.

In those area where the skill of our present prediction tools is not sufficient, the default is equal chances (white color). The probabilities of experiencing each of the three categories (above normal, near normal or below normal) remain equally likely (1/3) in the white areas on the maps to the left. The outlined percentages below correspond to the values on the map.

Precip	Temp	Probability of Occurrence			Most likely category
		Above	Near	Below	
		80.0%-90.0%	16.7%-06.7%	03.3%	"Above"
		70.0%-80.0%	26.7%-16.7%	03.3%	"Above"
		60.0%-70.0%	33.3%-26.7%	06.7%-03.3%	"Above"
		50.0%-60.0%	33.3%	16.7%-06.7%	"Above"
		40.0%-50.0%	33.3%	26.7%-16.7%	"Above"
		33.3%-40.0%	33.3%	33.3%-26.7%	"Above"
		33.3%-30.0%	33.3%-40.0%	33.3%-30.0%	"Near Normal"
		30.0%-25.0%	40.0%-50.0%	30.0%-25.0%	"Near Normal"
		33.3%-26.7%	33.3%	33.3%-40.0%	"Below"
		26.7%-16.7%	33.3%	40.0%-50.0%	"Below"
		16.7%-06.7%	33.3%	50.0%-60.0%	"Below"
		06.7%-03.3%	33.3%-26.7%	60.0%-70.0%	"Below"
		03.3%	26.7%-16.7%	70.0%-80.0%	"Below"
		03.3%	16.7%-06.7%	80.0%-90.0%	"Below"
		33.3%	33.3%	33.3%	"Equal Chances"



Temperature (above) and Precipitation (right) outlooks for the winter season of 2004-2005.



**Lead Forecasters**

Chris Buttler Cliff Cole
Kenny Roberg Mitch Power
John Springer

Electronic Technicians

Alan Johnson Ernie Vasina

General Forecasters

Teresa Keck Matt Masek
Dennis Phillips Jim Connolly

Meteorological Interns

Christina Hannon Angela Oder

Our Office Staff**Meteorologist in Charge**

Brian Hirsch

Warning Coordination Meteorologist

Deb Blondin

Science & Operations Officer

John Stoppkotte

Electronics Systems Analyst

Arthur Patrick

Information Technology Officer

Dennis Blondin

Administrative Support Assistant

Mary White

Observing Program Leader

Mark Byrd

Hydrometeorological Technicians

Ron Burns Jim Sweet

5250 E. Lee Bird Field
North Platte, NE 69101
National Weather Service

Phone: 308-532-4936
Fax: 308-532-9557
Email: Christina.Hannon@noaa.gov



***Check out our website at
www.crh.noaa.gov/lbf***